

In the Claims

1-51 (canceled).

52 (currently amended). A transformed plant comprising a polynucleotide encoding a polypeptide comprising SEQ ID NO: 1 or SEQ ID NO: 4:

- i) a polypeptide sequence consisting of SEQ ID NO: 3 fused to a heterologous sequence or SEQ ID NO: 4;
- ii) (SEQ ID NO: 1)_x, wherein x is an integer from 2 to 100;
- iii) (SEQ ID NO: 4)_x, wherein x is an integer from 2 to 100;
- iv) [L (SEQ ID NO:1)]_x, wherein L is a linker element joined to the polypeptide of SEQ ID NO:1 and x is an integer from 2 to 100;
- v) [L (SEQ ID NO:4)]_x, wherein L is a linker element joined to the polypeptide of SEQ ID NO: 4 and x is an integer from 2 to 100; or
- vi) [(SEQ ID NO: 1 (L)_a)_b L_c (SEQ ID NO: 4 (L)_d)_e]_x, wherein a and b can be the same, or different, and are an integer from 1 to 50; x is an integer from 2 to 100; L is a linker element; c and d can be the same, or different, and are 0, 1, 2, 3, 4, 5, 6, 7, or 8; and e is 0, 1, 2, 3, 4, 5, 6, 7, or 8.

53 (currently amended). The transformed plant according to claim 52, wherein said transformed plant comprises a polynucleotide encoding a polypeptide comprising SEQ ID NO: 1 sequence consisting of SEQ ID NO: 3 fused to a heterologous sequence.

54 (currently amended). The transformed plant according to claim 52, wherein said transformed plant comprises a polynucleotide encoding a polypeptide comprising SEQ ID NO: 4 sequence consisting of SEQ ID NO: 3 fused to a heterologous sequence that chelates metal ions.

55 (previously presented). The transformed plant according to claim 52, wherein said transformed plant comprises a polynucleotide encoding a polypeptide sequence consisting of SEQ ID NO: 4.

56 (currently amended). The transformed plant according to claim 52, wherein said transformed plant comprises a polynucleotide encoding a polypeptide consisting of SEQ ID NO: 1comprising (SEQ ID NO: 1)_x, wherein x is an integer from 2 to 100.

57-60 (canceled).

61 (currently amended). A method for bioremediation or phytoremediation of sites contaminated with metals comprising: a) identifying a site suitable for bioremediation and containing contaminating heavy metals; b) planting transgenic plants according to claim 52 at said site; c) growing said transgenic plants at said site under conditions that allow for the accumulation of metals that contaminate said site; and d) harvesting said transgenic plants to remove the metal contaminants from the site.

62 (currently amended). The method according to claim 61, wherein said transgenic plant comprises a polynucleotide encoding a polypeptide comprising SEQ ID NO: 1 sequence consisting of SEQ ID NO: 3 fused to a heterologous sequence.

63 (currently amended). The method according to claim 61, wherein said transgenic plant comprises a polynucleotide encoding a polypeptide comprising SEQ ID NO: 4 sequence consisting of SEQ ID NO: 3 fused to a heterologous sequence that chelates metal ions.

64 (currently amended). The method according to claim 61, wherein said transgenic plant comprises a polynucleotide encoding a polypeptide consisting of SEQ ID NO: 1 sequence consisting of SEQ ID NO: 4.

65 (currently amended). The method according to claim 61, wherein said transgenic plant comprises a polynucleotide encoding a polypeptide consisting of SEQ ID NO: 4 comprising (SEQ ID NO: 1)_x, wherein x is an integer from 2 to 100.

66-75 (canceled).

76 (previously presented). A method of targeting polypeptides to the cell wall of a plant cell comprising transforming a plant cell with a genetic construct encoding a polypeptide comprising SEQ ID NO: 1 or 3 fused to a heterologous sequence and growing said cell under conditions that allow for the expression of the genetic construct and the translocation of the expressed polypeptide to the cell wall of said cell.